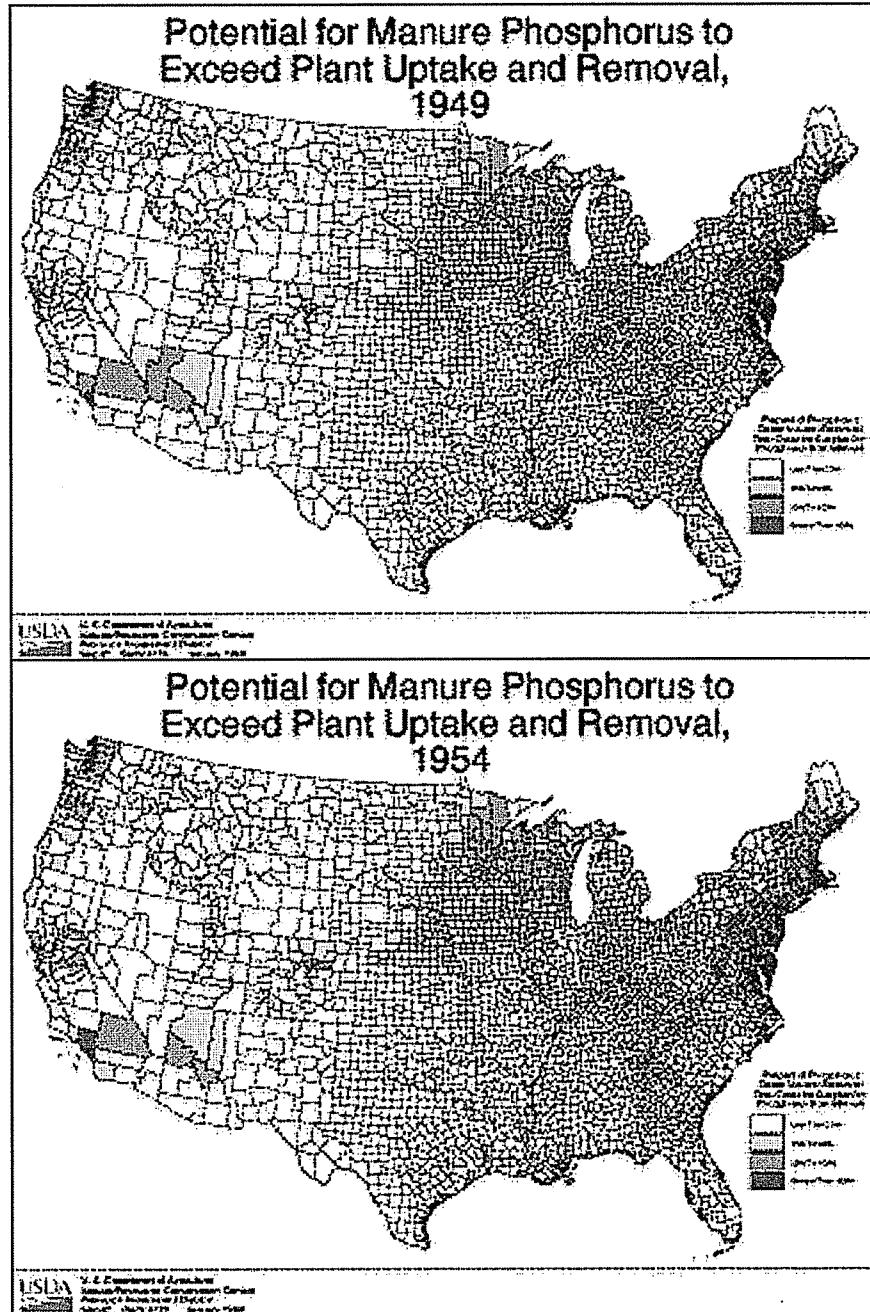
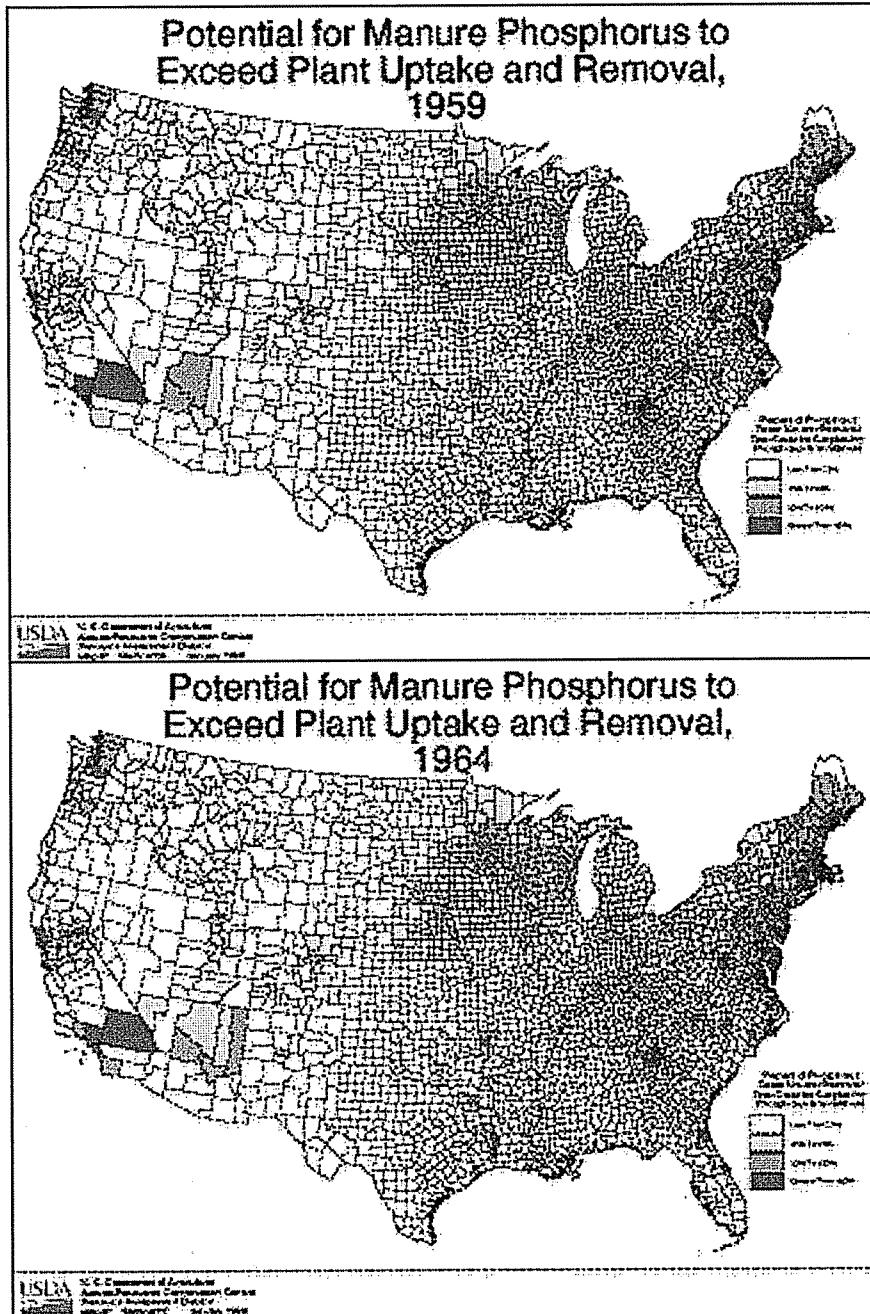
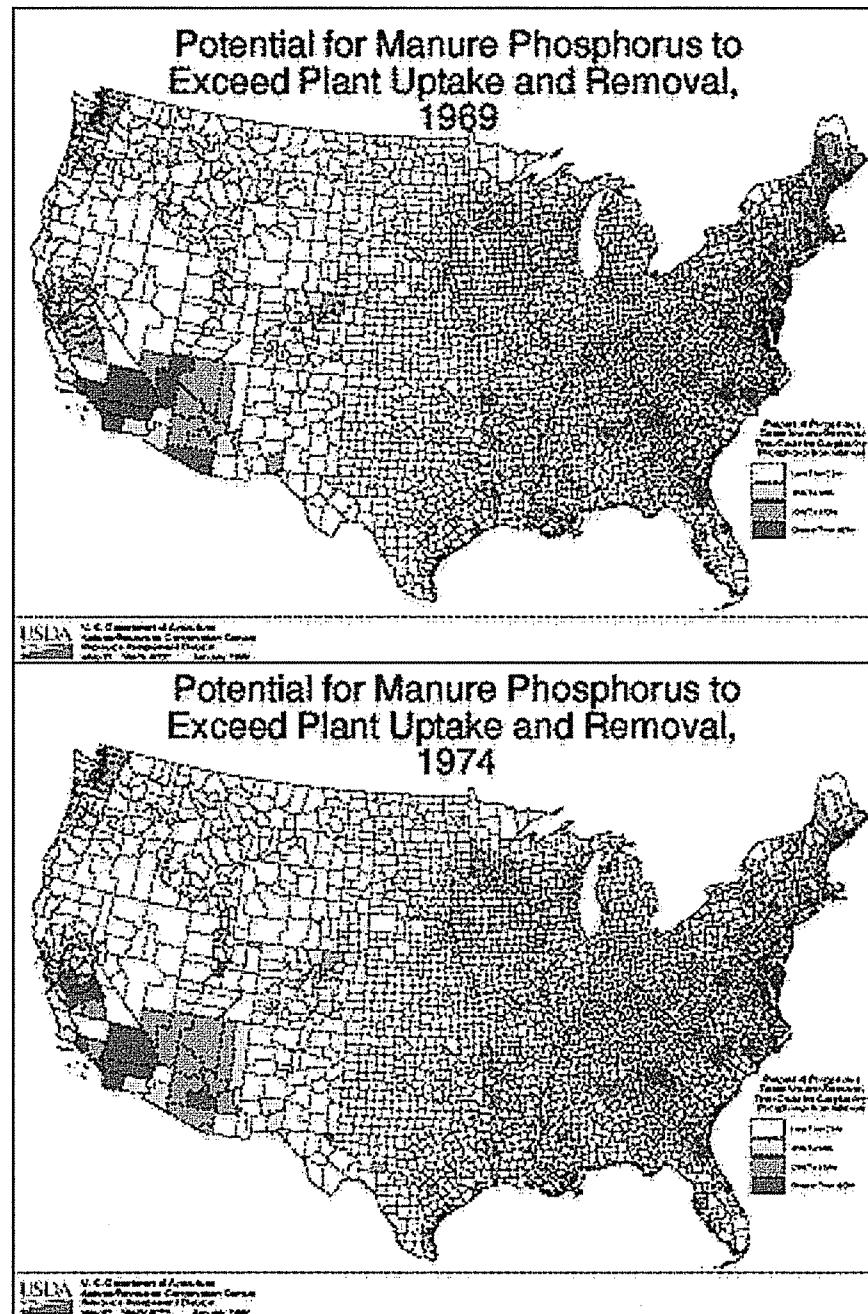


Appendix A

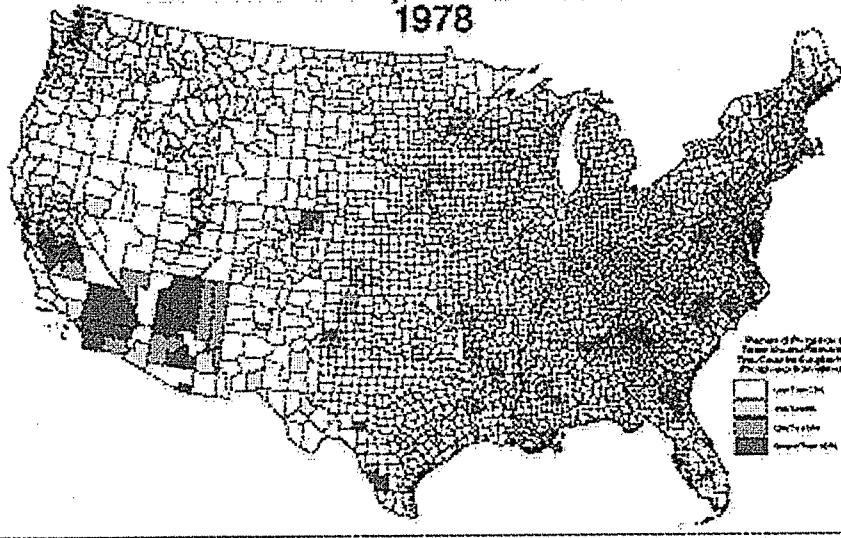
USDA Maps Showing Counties With the Potential for Manure Phosphorus to Exceed Plant Uptake and Removal, 1949 through 1997





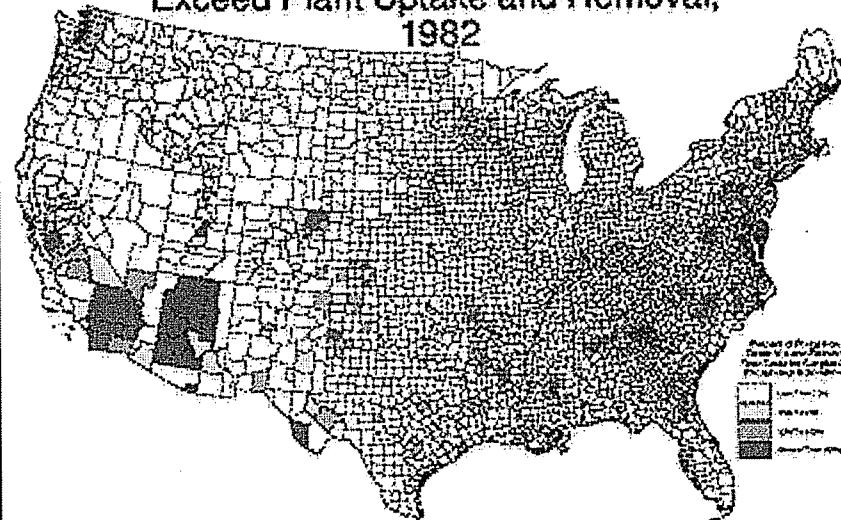


Potential for Manure Phosphorus to
Exceed Plant Uptake and Removal,
1978

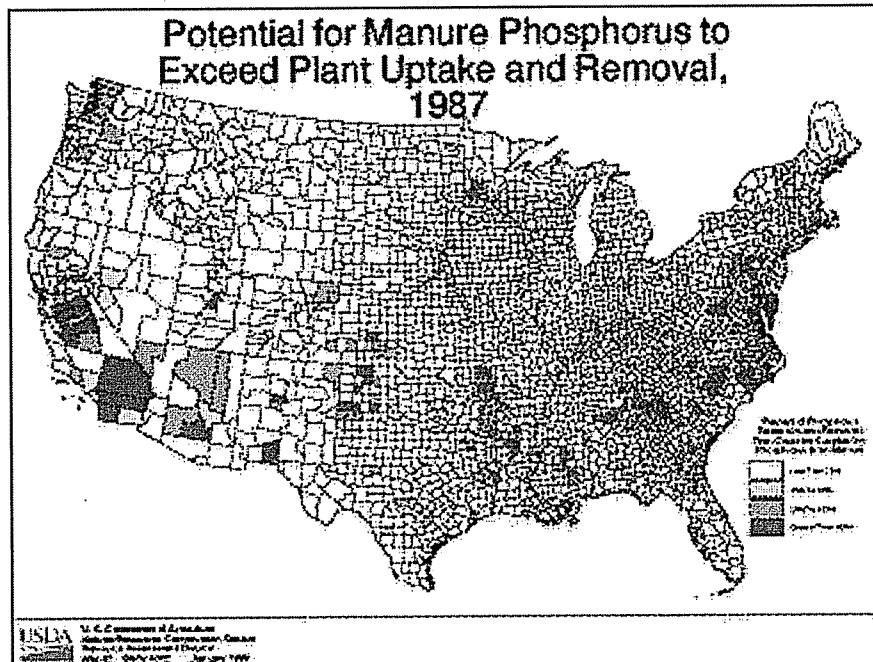


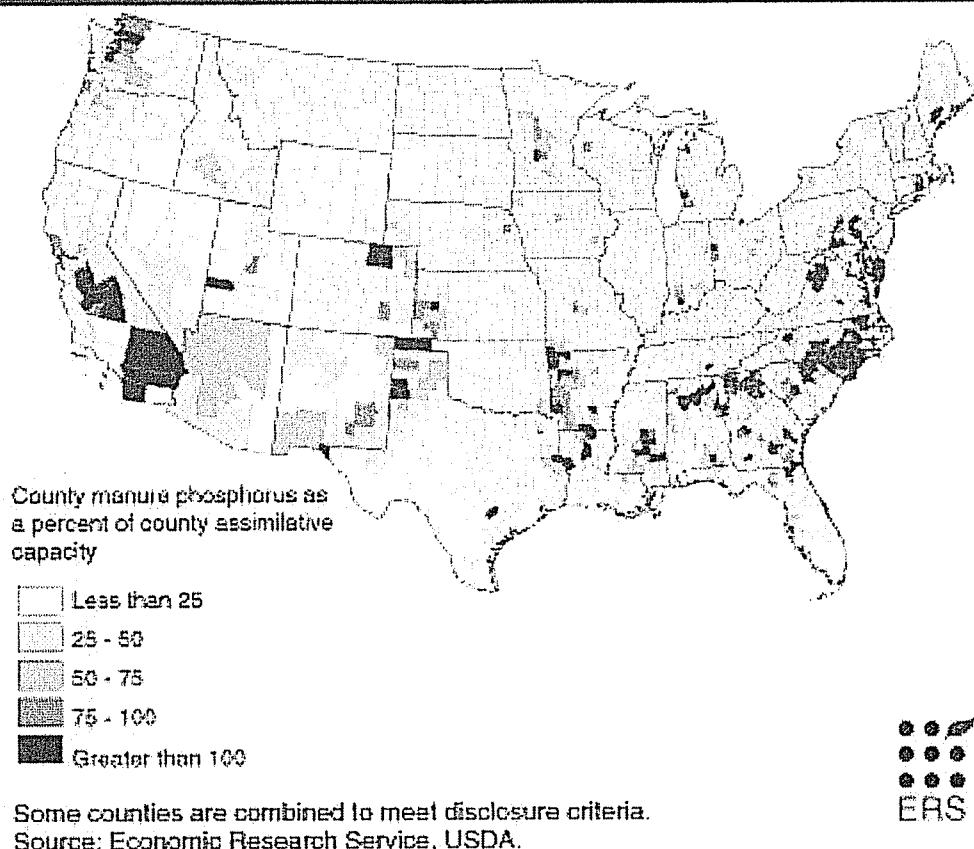
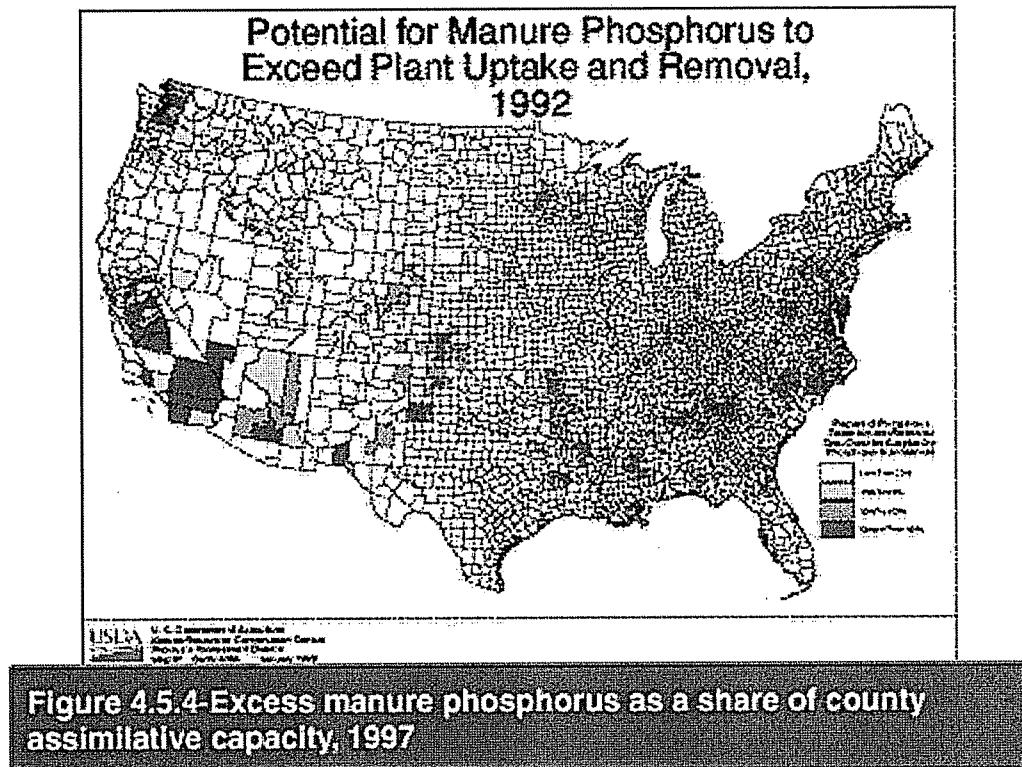
USDA
U.S. Department of Agriculture
National Resources Conservation Service
Natural Resource Inventory Program
July 1978, Revised July 1980

Potential for Manure Phosphorus to
Exceed Plant Uptake and Removal,
1982



USDA
U.S. Department of Agriculture
National Resources Conservation Service
Natural Resource Inventory Program
July 1978, Revised July 1980





Appendix B

Key Features of Defendant's Contracts with Growers (part I)						
Integrator	Poultry Type	Year	Length of contract	Max Days Out or Number of Flocks Specified (except for first flock)	Disposal of Waste	Disposal of Dead Birds
Cargill	Turkey	1977	one flock	none specified	grower provides new litter (except for brooding); used litter and waste not mentioned	Grower--must comply with regs
Cargill	Turkey	1979	one flock	none specified	grower provides new litter (except for brooding); used litter and waste not mentioned	Grower--must comply with regs
Cargill	Turkey	1980	one flock	none specified	grower provides new litter (except for brooding); used litter and waste not mentioned	Grower--must comply with regs
Cargill	Turkey	1981	one flock	none specified	grower provides new litter (except for brooding); used litter and waste not mentioned	Grower--must comply with regs
Cargill	Turkey	1990	one year max	none specified	grower provides new litter for growout; used litter and waste not mentioned; states grower agrees to comply with all applicable state, county, local and laws federal "health".	Grower--must comply with regs
Cargill	Turkey	1993	one year max	six flocks	grower provides new litter (except for brooding); used litter and waste not mentioned; states grower agrees to comply with all applicable state, county, local and federal "health" and "environmental" laws.	Grower--must comply with regs

Cargill	Turkey	1994	one year max	six flocks	grower provides new litter (except for brooding); used litter and waste not mentioned; states grower agrees to comply with all applicable state, county, local and federal "health" and "environmental" laws.	Grower--must comply with regs
Cargill	Turkey	1995	one year max	six flocks	grower provides new litter (except for brooding); used litter and waste not mentioned; states grower agrees to comply with all applicable state, county, local and federal "health" and "environmental" laws.	Grower--must comply with regs
Cargill	Turkey	1996	one year max	five flocks	grower provides new litter (except for brooding); used litter and waste not mentioned; states grower agrees to comply with all applicable state, county, local and federal "health" and "environmental" laws.	Grower--must comply with regs
Cargill	Turkey	1997	18 month max	four flocks	grower provides new litter (except for brooding); used litter and waste not mentioned; states grower agrees to comply with all applicable state, county, local and federal "health" and "environmental" laws.	Grower--must comply with regs
Cargill	Turkey	1998	18 month max	four flocks	grower provides new litter (except for brooding); used litter and waste not mentioned; states grower agrees to comply with all applicable state, county, local and federal "health" and "environmental" laws.	Grower--must comply with regs
Cargill	Turkey	1999	18 month max	four flocks	grower provides new litter (except for brooding); used litter and waste not mentioned; states grower agrees to comply with all applicable state, county, local and federal "health" and "environmental" laws.	Grower--must comply with regs
Cargill	Turkey	2000	18 month max	four flocks	grower provides new litter (except for brooding); used litter and waste not mentioned; states grower agrees to comply with all applicable state, county, local and federal "health" and "environmental" laws.	Grower--must comply with regs

Cargill	Turkey	2001	18 month max	four flocks	grower provides new litter (except for brooding); used litter and waste not mentioned; states grower agrees to comply with all applicable state, county, local and federal "health" and "environmental" laws. [redacted]	Grower--must comply with regs
Cargill	Turkey	2003	one year max	five flocks	grower provides new litter (except for brooding); used litter and waste not mentioned; states grower agrees to comply with all applicable state, county, local and federal "health" and "environmental" laws. [redacted]	Grower--must comply with regs
Cargill	Turkey	2003	18 month max	five flocks	grower provides new litter (except for brooding); used litter and waste not mentioned; states grower agrees to comply with all applicable state, county, local and federal "health" and "environmental" laws. [redacted]	Grower--must comply with regs
Cargill	Turkey	2003	18 month max	five flocks	grower provides new litter (except for brooding); used litter and waste not mentioned; states grower agrees to comply with all applicable state, county, local and federal "health" and "environmental" laws; grower must have NMP that complies will all laws and regs and with BMPs.	Grower--must comply with regs
Cargill	Turkey	2006	18 month max	five flocks	grower provides new litter (except for brooding); used litter and waste not mentioned; states grower agrees to comply with all applicable state, county, local and federal "health" and "environmental" laws; grower must have NMP that complies will all laws and regs and with BMPs.	Grower--must comply with regs

Cal-Maine	Breeder Egg	2003	Life of one flock layers	none specified	Litter and waste not mentioned; contract states that grower must comply with all applicable state, county, local and federal "Health" laws.	Producer agrees to be responsible for the proper clean up of producer's facilities; comply with all EPA and state agencies responsible for disposal of waster and emissions, relative to the disposal of any and all waste products produced from producer's facilities including, but not limited to, waster water run-off, manure and dead birds.
Cal-Maine	Breeder Pullet Brooding and Rearing	1991, 1993, 2001-2003	One flock	none specified	Grower responsible for proper clean up and disposal of any and all waste products from producer's facilities including, but not limited to, waste water run-off, manure and dead birds.	
Cal-Maine	Pullet	1995, 1997, 2002-2004	18 weeks	none specified	Grower responsible for proper clean up and disposal of any and all waste products from producer's facilities including, but not limited to, waste water run-off, manure and dead birds.	
Cal-Maine	Egg	2000, 2001, 1996, 1992, 2003	one flock	none specified	Grower responsible for proper clean up and disposal of any and all waste products from producer's facilities including, but not limited to, waste water run-off, manure and dead birds.	
Cal-Maine	Egg	1989, 1990, 1991, 1994, 1995	one flock	none specified	Grower to provide all clean up Integrators species and to comply with accepted practices of waste and dead bird disposal	
BCM Egg Company	Egg	1995	18 weeks	none specified		
Sunny Fresh Eggs	Egg	1988	one flock	none specified		Grower must comply with all applicable "Health laws;" Sunny Fresh can correct and perform such necessary acts as to comply with stat laws or reg's and charge expenses to producer.
Cargill	Breeder Egg Facility sold to Ray Braly by Cargill	1983	5 years	none specified		

Cargill	Egg contract with	1985	one flock	none specified	not mentioned	not mentioned
Simmons	Broilers	1979	apparently one flock	none specified	not mentioned	Grower
Simmons	Broilers	1986	apparently one flock	none specified	not mentioned	Grower
Simmons	Broilers	1995	apparently one flock	none specified	not mentioned specifically, but states that grower must follow FIFRA as well as appropriate FDA, USDA and EPS regis	Grower
Simmons with UARK	Broilers	1996	apparently one flock	none specified	dispose of litter in accordance with BMPs, work with all appropriate agenciens in developing a NMP and follow all applicable regs pertaining to litter disposal; states that grower must follow FIFRA as well as appropriate FDA, USDA and EPS regis	Grower
Simmons	Broilers	1997	one flock	none specified	dispose of litter in accordance with BMPs, work with all appropriate agenciens in developing a NMP and follow all applicable regs pertaining to litter disposal; states that grower must follow FIFRA as well as appropriate FDA, USDA and EPS regis	Grower
Simmons	Broilers	1999	one flock	none specified	dispose of litter in accordance with BMPs, work with all appropriate agenciens in developing a NMP and follow all applicable regs pertaining to litter disposal; states that grower must follow FIFRA as well as appropriate FDA, USDA and EPS regis	Grower

Simmons	Broilers	2001	one flock	none specified	Maintain litter disposal records; Dispose of litter in accordance with BMPs; Provide accurate info regarding status of NMP, date of soil samples, etc	Grower
Simmons	Broilers	2003	one flock	none specified	Maintain litter disposal records; Dispose of litter in accordance with BMPs; Provide accurate info regarding status of NMP, date of soil samples, etc	Grower
Simmons	Broilers	2004	one flock	none specified	Maintain litter disposal records; Dispose of litter in accordance with BMPs; Provide accurate info regarding status of NMP, date of soil samples, etc	Grower
Simmons	Broilers	2005	one flock	none specified	Maintain litter disposal records; Dispose of litter in accordance with BMPs; Provide accurate info regarding status of NMP, date of soil samples, etc	Grower
Simmons	Breeder	2006 with Addendum	7 year but no set number of flocks	none specified	Maintain litter disposal records; Dispose of litter in accordance with BMPs; Provide accurate info regarding status of NMP, date of soil samples, etc	Grower
Simmons	Breeder	1995	one growing cycle	none specified	Follow litter mgmt plan for legal disposal or land application of litter from each flock; follow FIFRA as well as FDA, USDA and EPA regs	Grower
Simmons	Breeder	1997	one growing cycle	none specified	Follow litter mgmt plan for legal disposal or land application of litter from each flock; follow FIFRA as well as FDA, USDA and EPA regs	Grower
Simmons	Breeder	1998, 1999, 2000, 2005	one growing cycle	none specified	Follow EPA and USDA regs; dispose of litter in accordance with BMPs; work with govt in developing NMP	Grower

			New house supplement states that "dead birds will be disposed of in a pit constructed in accordance with instructions issued by the state agencies."	
Georges	Broilers	1990	one flock	none specified not mentioned
	Supplement to Broiler Growing Agreement for New Houses	1995		"Dead birds will be disposed of in accordance with instructions issued by the Federal, State and local agencies."
Georges	Broilers	1999	One flock	none specified not mentioned
			Dispose of litter in accordance with BMP; develop NMP; follow all regs pertaining to litter disposal: Litter addendum states guidelines for land application	Grower
Georges	Broilers	1999	One flock	none specified not mentioned
			Dispose of litter in accordance with BMP; develop NMP; follow all regs pertaining to litter disposal; 1999 Addendum in contract; keep records of use or sales of litter; specified that "poultry litter should be evenly distributed over land application sites at a rate not to exceed 5 tons per acre per year, with no more than 2.5 tons/acre in each application (as a rule of thumb, 30 acres for one 16,000 sq. ft. house per year)", has other specs for land application	Grower
Georges	Broilers	2002	One flock	none specified not mentioned
			Dispose of litter in accordance with BMP; develop NMP; follow all regs pertaining to litter disposal; 1999 Addendum in contract; keep records of use or sales of litter; specified that "poultry litter should be evenly distributed over land application sites at a rate not to exceed 5 tons per acre per year, with no more than 2.5 tons/acre in each application (as a rule of thumb, 30 acres for one 16,000 sq. ft. house per year)", has other specs for land application	Grower
Georges	Broilers	2005	One flock	none specified not mentioned

Georges	Pullet	1987	One cycle	none specified	not mentioned	Grower
Georges	Pullet	1993	One cycle	none specified	Dispose of litter in accordance with BMP (copy provided); work with SCS to develop NMP; follow all litter reg's	Grower
Georges	Pullet	1995	One cycle	none specified	Dispose of litter in accordance with BMP (copy provided); work with SCS to develop NMP; follow all litter reg's	Grower
Georges	Pullet	1997	One cycle	none specified	Dispose of litter in accordance with BMP (copy provided); work with SCS to develop NMP; follow all litter reg's; Attached Schedule A states detailed guidelines for land application	Grower
Georges	Pullet	2004	One cycle	none specified	Dispose of litter in accordance with BMP; develop NMP; follow all reg's pertaining to litter disposal; keep records of use or sales of litter; detailed guidelines for land application of waste	Grower
Georges lease agreement	Breeder Hens lease	1980	one flock	none specified	Lessee agrees that he will not commit waste, nor permit waste to be done upon the aforesaid lands and premises, and that he will keep said lands and premises free of de???'s and contamination, and Waste not defined.	
Georges lease agreement	Breeder hens	1995	one flock	none specified	Lessee agrees that he will not commit waste, nor permit waste to be done upon the aforesaid lands and premises, and that he will keep said lands and premises free of de???'s and contamination, and Waste not defined.	

Georges	Hatching Egg	1980	One flock	none specified	not mentioned	not mentioned
Georges	Hatching Egg	1991	one flock	none specified	not mentioned	not mentioned
Georges	Hatching Egg	1995	one flock	none specified	Dispose of litter in accordance with BMP (copy provided); work with SCS to develop NMP; follow all litter regs	grower will remove and dispose of in accordance with good husbandry and all applicable laws
Georges	Hatching Egg	2004	one flock	none specified	Dispose of litter in accordance with BMP; develop NMP; follow all regs pertaining to litter disposal; 1999 Addendum in contract; keep records of use or sales of litter; specified that "poultry litter should be evenly distributed over land application sites at a rate not to exceed 5 tons per acre per year, with no more than 2.5 tons/acre in each application (as a rule of thumb, 30 acres for one 16,000 sq. ft. house per year)", has other specs for land application	All litter produced by birds shall be the exclusive property of the grower and grower shall be responsible for and receive all of the economic benefits from the use and disposal of said litter.
Peterson (Evans & Evans)	Broiler	2004	one flock	none specified	All litter produced by birds shall be the exclusive property of the grower and grower shall be responsible for and receive all of the economic benefits from the use and disposal of said litter.	grower
Peterson (Evans & Evans)	Broiler	2004	one flock	none specified	All litter produced by birds shall be the exclusive property of the grower and grower shall be responsible for and receive all of the economic benefits from the use and disposal of said litter.	grower
Peterson (Evans & Evans)	Broiler	2005	one year	none specified	All litter produced by birds shall be the exclusive property of the grower and grower shall be responsible for and receive all of the economic benefits from the use and disposal of said litter.	grower

Tyson	Broiler	1986	one flock	none specified	not mentioned	not mentioned
Tyson	Broiler	1992	one flock implied	none specified	Requires NMP provided by SCS; Until grower has NMP, must follow Tyson's Dry Poultry Litter Handling Best Management Guidelines provided to grower	grower
Tyson	Broiler	1999	three years	none specified	Grower responsible for removal and disposal of litter, and must comply with all environmental laws	grower
Tyson	Broiler	2003	one year	none specified	Grower responsible for removal and disposal of litter, and must comply with all environmental laws	grower
Tyson	Broiler	2003	one year	none specified	Grower responsible for removal and disposal of litter, and must comply with all environmental laws	grower
Tyson	Broiler	2003	one year	none specified	Comply with all laws, rules, regs governing environmental and poultry litter management; Company provided Environmental Poultry Farm Management handbook with Nutrient Management section	not specifically mentioned; may be covered by biosecurity and Tyson management
Tyson	Broiler	2005	three year	none specified		

Tyson	Broiler	2006	three year	none specified	Comply with all laws, rules, regs governing environmental and poultry litter management; Company provided Environmental Poultry Farm Management handbook with Nutrient Management section	not specifically mentioned; may be covered by biosecurity and Tyson management
Tyson	Breeder Pullet	1986	one flock	none specified	not mentioned	not mentioned
Tyson	Breeder Pullet	2002	one flock	none specified	Grower responsible for removal and disposal of litter, and must comply with all environmental laws	grower
Poultry Growers Inc (TSN22812SQK)	Broiler Pullet LEASE	1984	one year lease	none specified	Grower responsible for removal and disposal of litter, and must comply with all environmental laws	grower
Tyson	Hatching Egg	2002	one flock	none specified	Grower responsible for removal and disposal of litter, and must comply with all environmental laws	grower
Cobb-Vantress	Breeder Hen LEASE, including tenant house and 20 acres	1987	five years with option to extend three years more	none specified	Lessor entitled to litter from poultry houses during term of lease provided he cleans houses	non mentioned
Cobb-Vantress	LEASE	1992	one year	none specified	Grower agrees to clean litter from houses upon completion of bird cycle; disposal not mentioned	non mentioned
Cobb-Vantress	Breeder Hen	1994	three months	none specified	Grower must clean litter from houses upon completion of bird cycle; nothing mentioned about disposal	non mentioned

Cobb-Vantress	Breeder Hen	2001	ten months	none specified	Grower agrees to clean litter from houses upon completion of bird cycle; disposal not mentioned	grower
Cobb-Vantress	Breeder Hen	2002	one year	none specified	Grower agrees to clean litter from houses upon completion of bird cycle; disposal not mentioned	grower
Cobb-Vantress	Breeder Hen	2003	ten months	none specified	Grower responsible for removing and disposing of litter and dead birds in accordance with the Company's specifications and applicable laws; Grower agrees to clean litter from houses upon completion of bird cycle; disposal not mentioned	grower
Cobb-Vantress	Breeder Hen	2005	one year	none specified	Grower responsible for removing and disposing of litter and dead birds in accordance with the Company's specifications and applicable laws; Grower agrees to clean litter from houses upon completion of bird cycle; disposal not mentioned	grower
Cobb-Vantress	Pullet	2005	one year	none specified	Grower responsible for removing and disposing of litter and dead birds in accordance with the Company's specifications and applicable laws; Grower agrees to clean litter from houses upon completion of bird cycle; disposal not mentioned	grower
Cobb-Vantress	Hen	2005	one year	none specified	Grower responsible for removing and disposing of litter and dead birds in accordance with the Company's specifications and applicable laws; Grower agrees to clean litter from houses upon completion of bird cycle; disposal not mentioned	grower

Key Features of Defendant's Contracts with Growers (part II)						
Integrator	Poultry Type	Year	Ownership of birds and feed	Housing Specs	Grower Payment System	Contract assignment
Cargill	Turkey	1977	Integrator	"strictly according" to Cargill	Integrator	Tournament
Cargill	Turkey	1979	Integrator	"strictly according" to Cargill	Integrator	Tournament
Cargill	Turkey	1980	Integrator	"strictly according" to Cargill	Integrator	Tournament
Cargill	Turkey	1981	Integrator	"strictly according" to Cargill	Integrator	Tournament
Cargill	Turkey	1990	Integrator	"strictly according" to Cargill	Integrator	Tournament
Cargill	Turkey	1993	Integrator	Integrator	Tournament	only Integrator

Cargill	Turkey	1994	Integrator	Integrator	Tournament	only Integrator	anytime
Cargill	Turkey	1995	Integrator	Integrator	Tournament	only Integrator	anytime
Cargill	Turkey	1996	Integrator	Integrator	Tournament	only Integrator	anytime
Cargill	Turkey	1997	Integrator	Integrator	Tournament	only Integrator	anytime
Cargill	Turkey	1998	Integrator	Integrator	Tournament	only Integrator	anytime
Cargill	Turkey	1999	Integrator	Integrator	Tournament	only Integrator	anytime
Cargill	Turkey	2000	Integrator	Integrator	Tournament	only Integrator	anytime

Cargill	Turkey	2001	Integrator	Integrator	Integrator	Tournament	only Integrator	anytime
Cargill	Turkey	2003	Integrator	Integrator	Integrator	Tournament	only Integrator	anytime
Cargill	Turkey	2003	Integrator	Integrator	Integrator	Tournament	<u>only Integrator</u>	anytime
Cargill	Turkey	2005	Integrator	Integrator	Integrator	Tournament	only Integrator	anytime
Cargill	Turkey	2006	Integrator	Integrator	Integrator	Tournament	only Integrator	anytime

	Sunny Fresh Eggs	Egg	1988	Integrator	Integrator	per egg, by grade	anytime
Cargill	Breeder Egg Facility sold to Ray Bray by Cargill 1983					per egg	
BCM Egg Company	Egg	1995	Integrator	Direct supervision of BCM	per egg, by grade	only Integrator	anytime
Cal-Maine	Egg	1989, 1990, 1991, 1994, 1995	Integrator	Most by Integrator	Incentive based on feed, some on checks and dirties	only Integrator	anytime
Cal-Maine	Egg	1995, 1997, 2002-2004	Integrator	Most by Integrator	Incentive based on feed	only Integrator	anytime
Cal-Maine	Pullet	2000, 2001, 1996, 1992, 2003	Integrator	Most by Integrator	Incentive based on feed	only Integrator	anytime
Cal-Maine	Pullet	1991 1993, 2001-2003	Integrator	Follow Integrator "suggestions"	Incentive based on feed and viability; base pay depends on equipment	only Integrator	anytime
Cal-Maine	Breeder Egg	2003	Integrator	Integrator	Per egg or per bird	only Integrator	anytime

Cargill	Egg contract with	1985	Integrator	Integrator	per egg	
Simmons	Broilers	1979	Integrator	Integrator	only Integrator	anytime
Simmons	Broilers	1986	Integrator	Integrator	only Integrator	anytime
Simmons	Broilers	1995	Integrator	Integrator	only Integrator	anytime
Simmons with UARK	Broilers	1996	Integrator	Integrator	only Integrator	anytime
Simmons	Broilers	1997	Integrator	Integrator	Tournament	only Integrator
Simmons	Broilers	1999	Integrator	Integrator	Tournament	only Integrator

					Tournament-- separate for small and big birds	only Integrator	anytime
Simmons	Broilers	2001	Integrator	Integrator	Integrator	Integrator	anytime
Simmons	Broilers	2003	Integrator	Integrator	Tournament-- separate for small and big birds	only Integrator	anytime
Simmons	Broilers	2004	Integrator	Integrator	Tournament-- separate for small and big birds	only Integrator	anytime
Simmons	Broilers	2005	Integrator	Integrator	Tournament-- separate for small and big birds	only Integrator	anytime
Simmons	Breeder	1995	Integrator	Integrator	Base pay depends on equipment; feed and other incentives	only Integrator	anytime
Simmons	Breeder	1997	Integrator	Integrator	Base pay depends on equipment; feed and other incentives	only Integrator	anytime
Simmons	Breeder	1998, 1999, 2000, 2005	Integrator	Integrator	Base pay depends on equipment; feed and other incentives	only Integrator	anytime

Georges	Broilers	1990	Integrator	Integrator	Tournament	only Integrator	anytime
	Supplement to Broiler Growing Agreement for New Houses				Tournament with bonus for new houses		
Georges	Broilers	1995	Integrator	Integrator			
Georges	Broilers	1999	Integrator	Integrator	Tournament	only Integrator	anytime
Georges	Broilers	2002	Integrator	Integrator	Tournament	only Integrator	anytime
Georges	Broilers	2005	Integrator	Integrator	Tournament	only Integrator	anytime

Georges	Pullet	1987	Integrator	Integrator	per bird with livability incentive	only Integrator	anytime
Georges	Pullet	1993	Integrator	Integrator	per bird with livability incentive	only Integrator	anytime
Georges	Pullet	1995	Integrator	Integrator	per bird with livability incentive	only Integrator	anytime
Georges	Pullet	1997	Integrator	Integrator	per bird with livability incentive	only Integrator	anytime
Georges	Pullet	2004	Integrator	Integrator	per square foot with livability incentive	only Integrator	anytime
Georges lease agreement	Breeder Hens lease	1980	Integrator		per square foot lease	only Integrator	anytime
Georges lease agreement	Breeder hens	1995	Integrator		per square foot lease	only Integrator	anytime

Georges	Hatching Egg	1980	Integrator	"follow recommendations of Integrator"	per egg with hatchability incentive	
Georges	Hatching Egg	1991	Integrator	Integrator	per bird with hatchability incentive	anytime
Georges	Hatching Egg	1995	Integrator	Integrator	per bird with hatchability incentive	anytime
Georges	Hatching Egg	2004	Integrator	Integrator	per bird with hatchability incentive	anytime
Peterson (Evans & Evans)	Broiler	2004	Integrator	Integrator	tournament	only Integrator
Peterson (Evans & Evans)	Broiler	2004	Integrator	Integrator	tournament	only Integrator
Peterson (Evans & Evans)	Broiler	2005	Integrator	Integrator	tournament	only Integrator

Tyson	Broiler	1986	Integrator	Integrator	tournament for different classes	only integrator	anytime
Tyson	Broiler	1992	Integrator	Integrator	tournament for different classes	only integrator	anytime
Tyson	Broiler	1999	Integrator	Integrator	tournament for different classes	only integrator	anytime
Tyson	Broiler	2003	Integrator	Integrator	tournament for different classes	only integrator	anytime
Tyson	Broiler	2003	Integrator	Integrator	tournament for different classes	only integrator	anytime
Tyson	Broiler	2005	Integrator	Integrator	tournament for different classes	only integrator	anytime

Tyson	Broiler	2006	Integrator	Integrator	Integrator	tournament for different classes	only Integrator	anytime
Tyson	Breeder Pullet	1986	Integrator	Integrator	Integrator	per square foot	Integrator by implication	anytime
Tyson	Breeder Pullet	2002	Integrator	Integrator	Integrator	? Schedule not attached	only integrator	anytime
Poultry Growers Inc (TSN22812SOK)	Broiler Pullet LEASE	1984						
Tyson	Hatching Egg	2002	Integrator	Integrator	Integrator	Feed conversion and hatchability bonus	only Integrator	anytime
Cobb-Vantress	Breeder Hen LEASE, including tenant house and 20 acres	1987				fixed payment		
Cobb-Vantress	LEASE	1992				monthly payment per foot	grower can terminate if C-V has financial problems or defaults on pay	anytime
Cobb-Vantress	Breeder Hen	1994	Integrator	Integrator	Integrator	per square foot	grower can terminate if C-V has financial problems or defaults on pay	anytime

Cobb-Vantress	Breeder Hen	2001	Integrator	Integrator	pay per foot with bonus	Integrator	integrator	anytime
Cobb-Vantress	Breeder Hen	2002	Integrator	Integrator	per foot	Integrator	integrator	anytime
Cobb-Vantress	Breeder Hen	2003	Integrator	Integrator	pay per foot with bonus	Integrator	integrator	anytime
Cobb-Vantress	Breeder Hen	2005	Integrator	Integrator	Integrator	pay per foot	integrator	anytime
Cobb-Vantress	Pullet	2005	Integrator	Integrator	pay per foot	Integrator	integrator	anytime
Cobb-Vantress	Hen	2005	Integrator	Integrator	pay per foot	Integrator	integrator	anytime

Appendix C

Appendix Table 1 shows the summary of cost data from the Carreira, et al, 2007 study.

Appendix Table 1. Summary of Cost Data for Using Unbaled Poultry Litter (from Carreira, et al, 2007)	
Item	Cost/T
Capital Costs	
Conveyor	\$0.09
Bobcat	\$0.13
Trailer	\$0.03
Truck for trailer	\$0.08
Site costs	
Office	\$0.02
Scales	\$0.04
Land	\$0.18
Infrastructure	\$0.12
Operating costs	
Record keeping	\$0.20
Supervision	\$0.50
Field foreman	\$0.24
Other Costs	
Obtaining litter from farm	\$7.00
Load litter in truck	\$2.00
Unload litter from truck	\$2.00
Cleaning fee for trucks	\$2.00
Storage in hoop building	\$3.00
Unload litter to spreader	\$2.00
Application	\$7.00
Disking	\$6.00
Haul loose litter without backhaul per mile per ton	\$0.11

Appendix Table 2 gives the costs of applying fertilizer obtained from the University of Arkansas Extension Budget for Rice.

Appendix Table 2. Summary of Other Cost Data of Using Unbaled Poultry Litter (from UARK Rice Budget)		
Item	Units	Amount
Custom Apply Urea to Rice	per lb. of urea	\$0.056
Custom Apply Grn. Fertilizer	per acre	\$4.92

Appendix Table 3 gives assumptions about nutrients that were used in computing costs defendants avoided by not transporting litter.

Appendix Table 3. Nutrient Assumptions					
Nutrient	Nutrient Requirements of Rice (lbs/acre)	Nutrient Analysis of Litter (lbs/T)*	Nutrient Supply from Litter	Nutrients Needed from Supplemental Commercial Fertilizer (lbs/ac)	Conversion Factor
N	153	42	44.2	108.8	1
P2O5	60	57	60.0	0.0	0.437
K2O	90	52	54.7	35.3	0.83
Tons Litter/Acre of Rice based on P max					
* Nitrogen analysis assumes 60 lbs of N/T but that only 70% is available (from Carreira, et al, 2007)					

Appendix Table 4 presents fertilizer prices reported by USDA. These prices were used in computing the costs of fertilizer for application to rice in the Arkansas Delta.

Year	Appendix Table 4. Fertilizer Prices Reported by USDA (\$/T), Spring of Indicated Year		
	Urea 45- 46% nitrogen	Super- phosphate 44-46% phosphate	Potassium chloride 60% potassium
1988	\$183	\$222	\$157
1989	\$212	\$229	\$163
1990	\$184	\$201	\$155
1991	\$212	\$217	\$156
1992	\$198	\$206	\$150
1993	\$202	\$190	\$146
1994	\$207	\$212	\$146
1995	\$266	\$234	\$155
1996	\$278	\$258	\$153
1997	\$257	\$257	\$152
1998	\$195	\$253	\$163
1999	\$176	\$255	\$168
2000	\$200	\$233	\$165
2001	\$280	\$236	\$170
2002	\$191	\$221	\$164
2003	\$261	\$243	\$165
2004	\$276	\$266	\$181
2005	\$332	\$299	\$245
2006	\$362	\$324	\$273
2007	\$453	\$418	\$280
2008	\$552	\$800	\$561

The various cost items associated with handling litter as shown in Appendix Table 1 were for a single year. Nominal costs of handling litter for other years were computed based on the transportation cost index, as reported by the Bureau of Labor Statistics. Nominal values were converted to real values using the Consumer Price Index. Both of these statistics are given in Appendix Table 5.

Appendix Table 5. Inflation Indices from the Bureau of Labor Statistics		
Year	CPI	Transportation Cost Index
1988	118.3	108.7
1989	124.0	114.1
1990	130.0	120.5
1991	136.2	123.8
1992	140.3	126.5
1993	144.5	130.4
1994	148.2	134.3
1995	152.4	139.1
1996	156.9	143.0
1997	160.5	144.3
1998	163.0	141.6
1999	166.6	144.4
2000	172.2	153.3
2001	177.1	154.3
2002	179.9	152.9
2003	184.0	157.6
2004	188.9	163.1
2005	195.3	173.9
2006	201.6	180.9
2007	207.3	184.7
2008	213.0	195.0

Appendix Tables 6 through 9 show costs calculated from data and assumptions presented above and in my report.

Appendix Table 6. Cost of Applying Commercial Fertilizer to Rice (nominal dollars) Excluding Cost of Fertilizer		
Year	Cost of Applying Commercial Fertilizer to Rice (NO litter)	Cost of Applying SUPPLEMENTAL Commercial Fertilizer to Rice
1988	\$13.86	\$10.69
1989	\$14.55	\$11.22
1990	\$15.36	\$11.85
1991	\$15.78	\$12.17
1992	\$16.13	\$12.44
1993	\$16.62	\$12.82
1994	\$17.12	\$13.21
1995	\$17.73	\$13.68
1996	\$18.23	\$14.06
1997	\$18.40	\$14.19
1998	\$18.05	\$13.93
1999	\$18.41	\$14.20
2000	\$19.54	\$15.08
2001	\$19.67	\$15.17
2002	\$19.49	\$15.04
2003	\$20.09	\$15.50
2004	\$20.79	\$16.04
2005	\$22.17	\$17.10
2006	\$23.06	\$17.79
2007	\$23.55	\$18.16
2008	\$24.86	\$19.18

**Appendix Table 7. Total Cost of Litter Applied
(nominal dollars) to Cropland at 1.05 T/ac for a
hauling distance of:**

Year	200	250	275	325
1988	\$33.84	\$37.25	\$38.95	\$42.36
1989	\$35.52	\$39.10	\$40.89	\$44.47
1990	\$37.52	\$41.29	\$43.18	\$46.96
1991	\$38.54	\$42.42	\$44.37	\$48.25
1992	\$39.39	\$43.35	\$45.33	\$49.30
1993	\$40.60	\$44.69	\$46.73	\$50.82
1994	\$41.81	\$46.02	\$48.13	\$52.34
1995	\$43.31	\$47.67	\$49.85	\$54.21
1996	\$44.52	\$49.00	\$51.25	\$55.73
1997	\$44.93	\$49.45	\$51.71	\$56.23
1998	\$44.09	\$48.52	\$50.74	\$55.18
1999	\$44.96	\$49.48	\$51.75	\$56.27
2000	\$47.73	\$52.53	\$54.94	\$59.74
2001	\$48.04	\$52.88	\$55.30	\$60.13
2002	\$47.60	\$52.40	\$54.79	\$59.59
2003	\$49.07	\$54.01	\$56.48	\$61.42
2004	\$50.78	\$55.89	\$58.45	\$63.56
2005	\$54.14	\$59.59	\$62.32	\$67.77
2006	\$56.32	\$61.99	\$64.83	\$70.50
2007	\$57.51	\$63.29	\$66.19	\$71.98
2008	\$60.71	\$66.82	\$69.88	\$75.99

Appendix Table 8. Calculated Nominal Cost of Applying Commerical Fertilizer

Year	Cost of Commercial Fertilizer to Commercial Supplement Poultry Fertilizer PLUSWaste PLUS Application Application Costs for Costs (no litter)Commercial Fertilizer	
	\$/ac	\$/ac
1988	\$70.87	\$36.94
1989	\$77.29	\$41.08
1990	\$70.99	\$38.16
1991	\$77.21	\$41.83
1992	\$74.04	\$40.26
1993	\$73.83	\$41.00
1994	\$76.63	\$41.98
1995	\$89.19	\$49.69
1996	\$93.14	\$51.43
1997	\$89.67	\$49.05
1998	\$79.57	\$41.77
1999	\$77.28	\$39.95
2000	\$80.71	\$43.57
2001	\$94.72	\$53.28
2002	\$78.29	\$42.44
2003	\$92.07	\$51.21
2004	\$98.00	\$54.00
2005	\$115.69	\$63.56
2006	\$125.34	\$68.62
2007	\$147.75	\$79.96
2008	\$212.07	\$100.94

Appendix Table 9. Calculated Nominal Cost of Meeting Nutrient Requirements of Rice With and Without Poultry Waste.

Year	Cost of Commercial Fertilizer PLUS Application Costs (no litter)	Total Cost of Poultry Waste and Supplemental Commercial Fertilizer (\$/ac) for a hauling distance of:			
		200	250	275	325
1988	\$70.87	\$70.79	\$74.19	\$75.90	\$79.30
1989	\$77.29	\$76.60	\$80.18	\$81.97	\$85.55
1990	\$70.99	\$75.68	\$79.46	\$81.35	\$85.12
1991	\$77.21	\$80.37	\$84.25	\$86.19	\$90.07
1992	\$74.04	\$79.65	\$83.61	\$85.59	\$89.56
1993	\$73.83	\$81.60	\$85.69	\$87.73	\$91.82
1994	\$76.63	\$83.79	\$88.00	\$90.10	\$94.31
1995	\$89.19	\$93.00	\$97.36	\$99.54	\$103.90
1996	\$93.14	\$95.95	\$100.44	\$102.68	\$107.16
1997	\$89.67	\$93.97	\$98.50	\$100.76	\$105.28
1998	\$79.57	\$85.86	\$90.30	\$92.52	\$96.96
1999	\$77.28	\$84.91	\$89.43	\$91.70	\$96.22
2000	\$80.71	\$91.30	\$96.11	\$98.51	\$103.32
2001	\$94.72	\$101.32	\$106.16	\$108.58	\$113.41
2002	\$78.29	\$90.05	\$94.84	\$97.24	\$102.03
2003	\$92.07	\$100.28	\$105.22	\$107.69	\$112.63
2004	\$98.00	\$104.78	\$109.89	\$112.44	\$117.56
2005	\$115.69	\$117.70	\$123.15	\$125.88	\$131.33
2006	\$125.34	\$124.94	\$130.61	\$133.45	\$139.12
2007	\$147.75	\$137.46	\$143.25	\$146.15	\$151.94
2008	\$212.07	\$161.65	\$167.76	\$170.82	\$176.93